

**DELANEY WASH
FCD GAGE ID# 5108**

STATION DESCRIPTION

LOCATION - The gage is located near Tonopah, Arizona, approximately 3 miles south of Interstate highway 10 near 427th Avenue. Latitude N 33° 28' 10"; Longitude W 112° 58' 13.1". Located in NW1/4 SW1/4 S34 T2N R7W, in the Tonopah 7.5-minute quadrangle.

ESTABLISHMENT - The gage was installed on December 22, 1999.

DRAINAGE AREA – 48.3 mi² of which 14.6 mi² is downstream of the CAP canal.

GAGE - The gage is a pressure transducer type instrument. The PT diaphragm is at gage height 0.11 feet, levels of February 19, 2009. The PT is on the right bank of the wash.

There is a status sensor at this location. Normal (off) elevation of the sensor is 0.70 feet gage height, levels of February 19, 2009.

There is one crest gage located at the site on the left bank of the wash. The pin elevation is 2.20 feet gage height, levels of February 2, 2005.

There are no staff gages at this site.

ZERO GAGE HEIGHT – Zero gage height is defined as the pressure transducer diaphragm as originally installed. The PT has since been moved. However, no change of datum occurred. Zero gage height elevation is 1,112.03 feet NAVD 1988.

HISTORY – Gaging established on December 22, 1999. Crest gage was destroyed during the August 22, 2000 event. Crest gage was replaced in late September, 2000. The pin elevation was raised above the previous level. The PT level was raised on September 28, 2000 to be above the low point in the gage cross section and thus not be buried following most events. A rebar stake was added to the left bank of the third slope area cross section on September 28, 2000. Crest stage gage on right bank destroyed and replaced several times. Crest stage gage replaced in March 2003 on left bank of wash opposite PT. During the survey of April 1, 2003, the PT was found at 0.05 feet gage height. No record of the sensor being lowered was found. The effective date of the move is March 1, 2003. The PT and status sensor were found moved during the survey of February 19, 2009. The effective date of the move is January 1, 2009.

REFERENCE MARKS

RM-DELNY is an FCD brass cap located near the standpipe. It has elevation of 8.20 feet gage height, levels of January 19, 2000. It has elevation of 1,120.23 feet NAVD 1988. Northing: 899701.201; Easting: 379132.69. RM-DELNY was formerly known as RM1.

RP1 - is the bracket that supports the PT. It has elevation 0.92 feet gage height, levels of February 2, 2005.

RP2 - is the concrete 'ground' at the end of the PT conduit. Elevation = -0.08 feet gage height, levels of January 19, 2000. This elevation is probably no longer reliable due to changes in the PT support structure. It was not checked during the survey of February 2, 2005.

RP3 - is the top of the set post holding the status sensor. Elevation 2.30 feet gage height, levels of July 28, 2005.

CHANNEL AND CONTROL - The channel has a natural bottom and sides. The left bank is heavily vegetated and has a gradual slope. The right bank is less vegetated and has a sharp, almost vertical slope. The average channel slope for the approximately 350 feet surveyed is 0.0064 feet/feet.

No control exists at very low flows. The channel becomes control at about 2.0 feet gage height. Above about seven feet gage height, flow begins to spill into the overbanks, some of which are not contained.

RATING - The current rating is Rating #2, dated October 1, 2002. The rating was developed from a plot of the two previously generated ratings with the three indirect measurement points. One of the indirect points was not useful because it was too far outlying the remainder of the data points. A line was drawn through the two remaining indirect points and through the two previous ratings. The two previous ratings and the two acceptable indirect points were close in comparison on the plot.

DISCHARGE MEASUREMENTS - Direct measurements could be made by wading in the area near the gage. Higher flows can be measured by indirect methods. Three cross sections were monumented for this purpose.

Cross section One is located about 110 feet upstream from the gage cross-section. Both banks are marked with fence post hammered into the ground. XS1LB is the left bank marker. It has elevation 1,117.98 feet NAVD 1988. XS1RB is the right bank marker. It has elevation 1,119.06 feet NAVD 1988.

Cross-section Two is located about 70 feet downstream from the gage cross-section. Both banks are marked. The left bank is marked with a fence post, and the right bank is marked with a 1/2" rebar. XS2LB is the left bank marker. It has elevation 1,118.29 feet NAVD 1988. XS2RB is the right bank marker. It has elevation 1,120.13 feet NAVD 1988.

On September 18, 2003, XS2LB was found at 6.40 feet gage height, or 1,118.43 feet NAVD 1988 and XS2RB was found at 8.21 feet gage height, or 1,120.24 feet NAVD 1988.

Cross-section Three is located about 225 feet downstream from the gage cross-section. Both banks are marked. The left bank is marked with fence rail, and the right bank is marked with 1/2" rebar. XS3LB is the left bank marker. It has elevation 1,118.62 feet NAVD 1988. XS3RB is the right bank marker. It has elevation 1,119.90 feet NAVD 1988.

POINT OF ZERO FLOW - The low point in the gage cross section of the channel was found at 0.0 feet gage height on July 28, 2005. However, flow probably won't begin until about 0.25 feet gage height because the low point at the gage cross section does not continue downstream and seems to be a local feature.

FLOODS – A flood of 1,400 cfs at 6.04 feet gage height occurred on February 25, 2003. A flood of 1,300 cfs at 5.63 feet gage height occurred on July 30, 2003. A flood of 500 cfs at 3.48 feet gage height occurred on August 22, 2000.

REGULATION - Some may occur in the upper watershed at the crossing of the CAP canal. Actual effects have not been documented.

DIVERSIONS - None known

ACCURACY - Fair

JUSTIFICATION - Monitor flows in Delaney Wash for MCDOT for road closure at 411th Avenue and at Salome Highway.

UPDATED - July 14, 2011
 DE Gardner